

Appln. No. 09/840,193
Amendment dated December 29, 2004
Reply to Office Action of October 4, 2004

Amendments to the Claims:

Please cancel claims 10-32 and amend claims 1-3 and 6-9 as follows. The following listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Currently Amended). A radiation image processing apparatus, comprising:

an object region extracting means that section which detects an amount of radiation energy transmitted through a an object
5 representing a body part, forms radiation data including
radiation image data of the object and extracts an object region corresponding to the radiation image data of the object from the
radiation data where the object is radiographed for the radiation
image corresponding to the amount of the detection; and

10 a contour recognizing means section that recognizes a contour of the body part of the object based on the object region extracted by the object region extracting means section, wherein the contour recognizing means section has data of classifying
judgment criteria for each of plural different kinds of

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- 15 predetermined contours, judges the kind of recognized contour to which one of the plural different kinds of contours belongs on the basis of the classifying judgment criteria and provides extracts a feature amount regarding the kind of recognized contour in accordance with the judgment result.

Claim 2 (Currently Amended). The radiation image processing apparatus according to Claim 1, wherein the contour recognizing means section uses judges the kind of recognized contour based on a position change of a boundary of the object region.

Claim 3 (Currently Amended). The radiation image processing apparatus according to Claim 2, wherein the contour recognizing means section comprises:

- 5 a region boundary point detecting means section that detects a boundary of the object region,
- a position change amount calculating means section that calculates a position change amount of a the boundary of the object region from plural region boundary points detected by the region boundary point detecting means section, and
- 10 a contour specifying means section that specifies a contour the kind of recognized contour from the position change amount

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calculated by the position change amount calculating means,
section

wherein the region boundary point detecting means uses
15 plural different scanning lines which scan successively from one
end to the other end of an image with respect to one or both of
the horizontal and vertical directions, and extracts a target
pixel as a region boundary point when the target pixel existing
on each scanning line is included in the object region and an
arbitrary neighbor pixel near the target pixel is not included in
20 the object region,

wherein the position change amount calculating means obtains
an amount of position change from another adjoining region
boundary point with respect to all or plural arbitrary region
25 boundary points, and

wherein the contour specifying means specifies a contour by
classifying plural position change amounts into plural patterns
prepared in advance.

Claim 4 (Original). The radiation image processing
apparatus according to Claim 3, wherein the position change
amount is a distance between neighboring region boundary points.

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Claim 5 (Currently Amended). The radiation image processing apparatus according to Claim 3, wherein the position change amount is an amount of a change in coordinates between neighboring region boundary points in one or both of the 5 horizontal and vertical directions.

Claim 6 (Currently Amended). The radiation image processing apparatus according to Claim 1, wherein the contour recognizing means section uses judges the kind of recognized contour based on local region widths of the object region.

Claim 7 (Currently Amended). The radiation image processing apparatus according to Claim 6, wherein the contour recognizing means section comprises:

a region boundary point detecting means that section which 5 detects a boundary of the object region,
a region width calculating means that section which calculates local region widths of the object region from plural region boundary points detected by the region boundary point detecting means section, and

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10 a contour specifying means that section which specifies a
~~contour~~ the kind of recognized contour from the region widths
calculated by the region width calculating means, section
wherein the ~~region boundary point detecting means~~ uses
plural different scanning lines which scan successively from one
15 end to the other end of an image with respect to one or both of
the horizontal and vertical directions, and extracts a target
pixel as a region boundary point, when the target pixel existing
on each scanning line is included in the object region and an
arbitrary pixel near the target pixel is not included in the
20 object region,
wherein the region width calculating means calculates a
distance between plural region boundary points among the region
boundary points existing on the same scanning line as a region
width for each of the plural scanning lines, and
25 wherein the contour specifying means specifies a contour by
classifying the contour into plural patterns prepared in advance,
from the region width for each of the plural scanning lines.

Claim 8 (Currently Amended). The radiation image processing
apparatus according to claim 1, wherein ~~a~~ the body part or a
posture of ~~an~~ the object in a radiation image is recognized by

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using ~~a~~ the feature amount obtained in the contour recognizing
5 means section stated above.

Claim 9 (Currently Amended). The radiation image processing apparatus according to Claim 1, further comprising a radiographing orientation judging means for judging section which judges a radiographing orientation for ~~an~~ the object from the
5 contour based on the feature amount.

Claims 10-32 (Cancelled).